DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Siegenthaler, Peter
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-017192
Date Inspected: 02-Oct-2010

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: Zhenhua Port Machinery Company, Ltd (ZPMC) Chanxing Island

OSM Arrival Time: 700
OSM Departure Time: 1900
Location: Shanghai, China

CWI Name: Mrs. Lv Yun

Inspected CWI report:	☐ Yes	☑ No	☐ N/A	**Rod Oven in Use:**	☐ Yes	☑ No	☐ N/A
Electrode to specification:	☑ Yes	☐ No	☐ N/A	**Weld Procedures Followed:**	☑ Yes	☐ No	☐ N/A
Qualified Welders:	☑ Yes	☐ No	☐ N/A	**Verified Joint Fit-up:**	☐ Yes	☑ No	☐ N/A
Approved Drawings:	☑ Yes	☐ No	☐ N/A	**Approved WPS:**	☑ Yes	☐ No	☐ N/A
				Delayed / Cancelled:	☐ Yes	☑ No	☐ N/A

CWI Present: ☑ Yes ☐ No

Bridge No: 34-0006
Component: OBG Segment

Summary of Items Observed:

On this date Caltrans OSM Quality Assurance Inspector (QA), Vibin Kumar Selvanayaham, was present during the times noted above for observations relative to the work being performed.

Ultrasonic Testing (UT) – NWIT Document No: 006834

This QA inspector performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The members are identified as OBG Segment. The weld designations reviewed are as follows:

1. SEG3007AD-004

Ultrasonic Testing (UT) – NWIT Document No: 006832

This QA inspector performed UT of approximately 10% of the area previously tested and accepted by ZPMC Quality Control personnel. This QA Inspector generated an UT report for this date. The members are identified as OBG Segment. The weld designations reviewed are as follows:

1. SEG3009N-001

Description of Incident: During random in-process visual inspection of welds located on OBG segment13BE and 13CE, this Quality Assurance Inspector (QA) observed that ABF personnel performing Ultrasonic Testing (UT) on

bottom plate splice joint joining between Segments 13BE to 13CE. ABF UT personnel found fifty one (51) reject-able linear indications measuring approximately 10-260mm in lengths. The weld is identified as OBE13C-001. The Weld is Complete Joint Penetration (CJP) transition butt joint. The Weld is Seismic Performance Critical Members (SPCM). The Thickness of the bottom plates are {25/30}, {35/22} and {25/16}. The bottom plates are located at bay #14. The indications are clearly marked by ABF UT Technician on/near the weld. The problem occurred; because of ZPMC not performed back gouging and SAW or SMAW welding. See the attached picture and the indication details are as follows:

The ratings are -2db to +8dB and length approximately 10 to 260mm.
The depth (d) approximately measured 16 to 20mm
The X-values approximately measured 20 to 25mm

S.No Length of Indication(mm) Y Location(mm) S.No Length of Indication(mm) Y Location(mm)
1 40 940 27 25 10000
2 230 1220 28 30 10220
3 260 1500 29 20 10420
4 210 1830 30 20 10550
5 30 2130 31 60 10660
6 40 2800 32 10 10750
7 40 4530 33 90 11030
8 30 4840 34 60 11250
9 30 5050 35 50 11450
10 240 5220 36 15 12850
11 180 5610 37 50 12930
12 70 6060 38 10 13020
13 40 6420 39 90 13080
14 210 6630 40 70 13280
15 50 6910 41 15 14240
16 170 7020 42 20 14400
17 15 7955 43 15 14500
18 50 8380 44 160 15080
19 30 8630 45 140 15300
20 70 8840 46 20 15500
21 50 9030 47 25 16600
22 30 9120 48 20 17170
23 50 9270 49 20 17390
24 10 9480 50 20 17600
25 20 9710 51 10 18640
26 70 9820 Total L = 3320mm L =19600

Bay 14

This QA inspector observed ZPMC qualified welding personnel identified as 044771 perform Submerged Arc Welding (SAW) Welding on deck panel splice joint of OBG Segment 13AE, weld joint identified as SEG3007-005. ZPMC QC is identified as Mr. Lv Li Qing. The welding parameters as measured using QC's

calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA inspector observed ZPMC qualified welding personnel identified as 207237 perform SAW Welding on deck panel splice joint of OBG Segment 13CW, weld joint identified as SEG3015-005. ABF QC is identified as Mrs. Lv Yun. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA inspector observed ZPMC qualified welding personnel identified as 045270 perform SAW Welding on bottom plate butt joint of OBG Segment14W, weld joint identified as SEG3020A*-002. ABF QC is identified as Mrs. Lv Yun. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA inspector observed ZPMC qualified welding personnel identified as 207237 perform SAW Welding on deck panel splice joint of OBG Segment 13AW, weld joint identified as SEG3013-011. ABF QC is identified as Mrs. Lv Yun. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA inspector observed ZPMC qualified welding personnel identified as 045270 perform SAW Welding on deck panel splice joint of OBG Segment 13CW, weld joint identified as SEG3014-008. ABF QC is identified as Mrs. Lv Yun. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-B-T-2221-B-L2c-S-2.

This QA inspector observed ZPMC qualified welding personnel identified as 044801 perform Flux Core Arc Welding (FCAW) repair welding on vertical plate of OBG Segment 13AE, weld joint identified as VP3005-001-077. ZPMC QC is identified as Mr. Lu Li Qing. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-FCAW-2G (2F)-Repair, which is used as per Welding Repair Report (WWR) B-WRR-15495.

This QA inspector observed ZPMC qualified welding personnel identified as 044801 perform FCAW repair welding on vertical plate of OBG Segment 13AE, weld joint identified as VP3005-001-016. ZPMC QC is identified as Mr. Lu Li Qing. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-FCAW-2G (2F)-FCM-Repair, which is used as per Critical Welding Repair Report (CWR) B-CWR-1977.

This QA inspector observed ZPMC qualified welding personnel identified as 044795 perform FCAW repair welding on vertical plate of OBG Segment 13AE, weld joint identified as VP3005-001-021. ZPMC QC is identified as Mr. Lu Li Qing. The welding parameters as measured using QC's calibrated instruments appeared to be in general compliance with WPS-345-FCAW-2G (2F)-FCM-Repair, which is used as per Critical Welding Repair Report (CWR) B-CWR-1978.

Visual Inspection after Blast 1

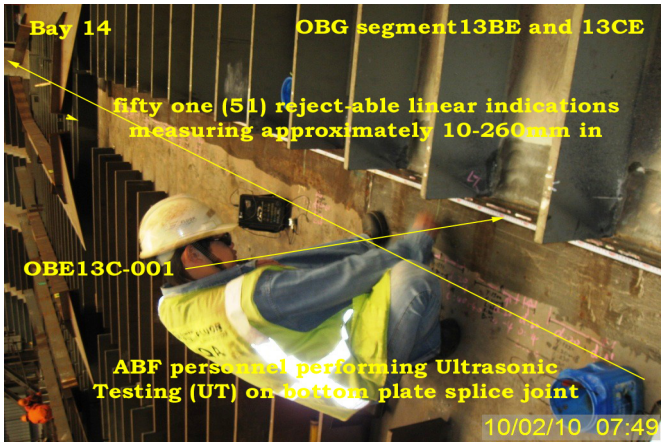
Segment 11DW

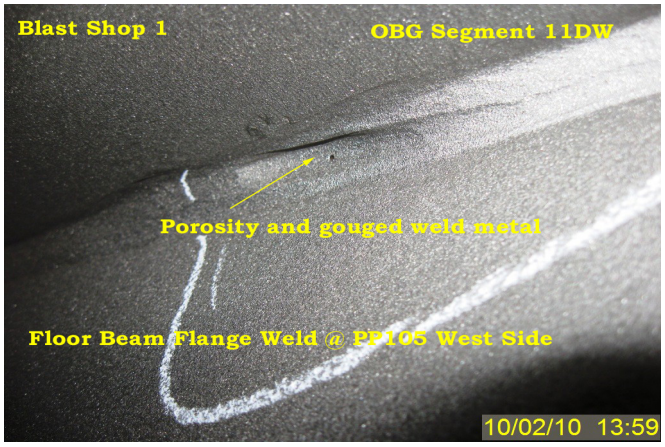
WELDING INSPECTION REPORT

(Continued Page 4 of 4)

This QA Inspector performed a preliminary random visual inspection on OBG Segment 11DW, after the grit blast of the interior components of the deck panel, floor beams and corner assemblies of this segment. Areas of visual weld defects that will require welding were taped and will be repaired after the coating is applied. ZPMC QC personnel are aware of these areas and were present during the inspection. See the attached file.

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.





Summary of Conversations:

Only general conversation was held between QA and QC concerning this project.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact , who represents the Office of Structural Materials for your project.

Inspected By:	Kumar,Vibin	Quality Assurance Inspector
Reviewed By:	McClendon,Timothy	QA Reviewer